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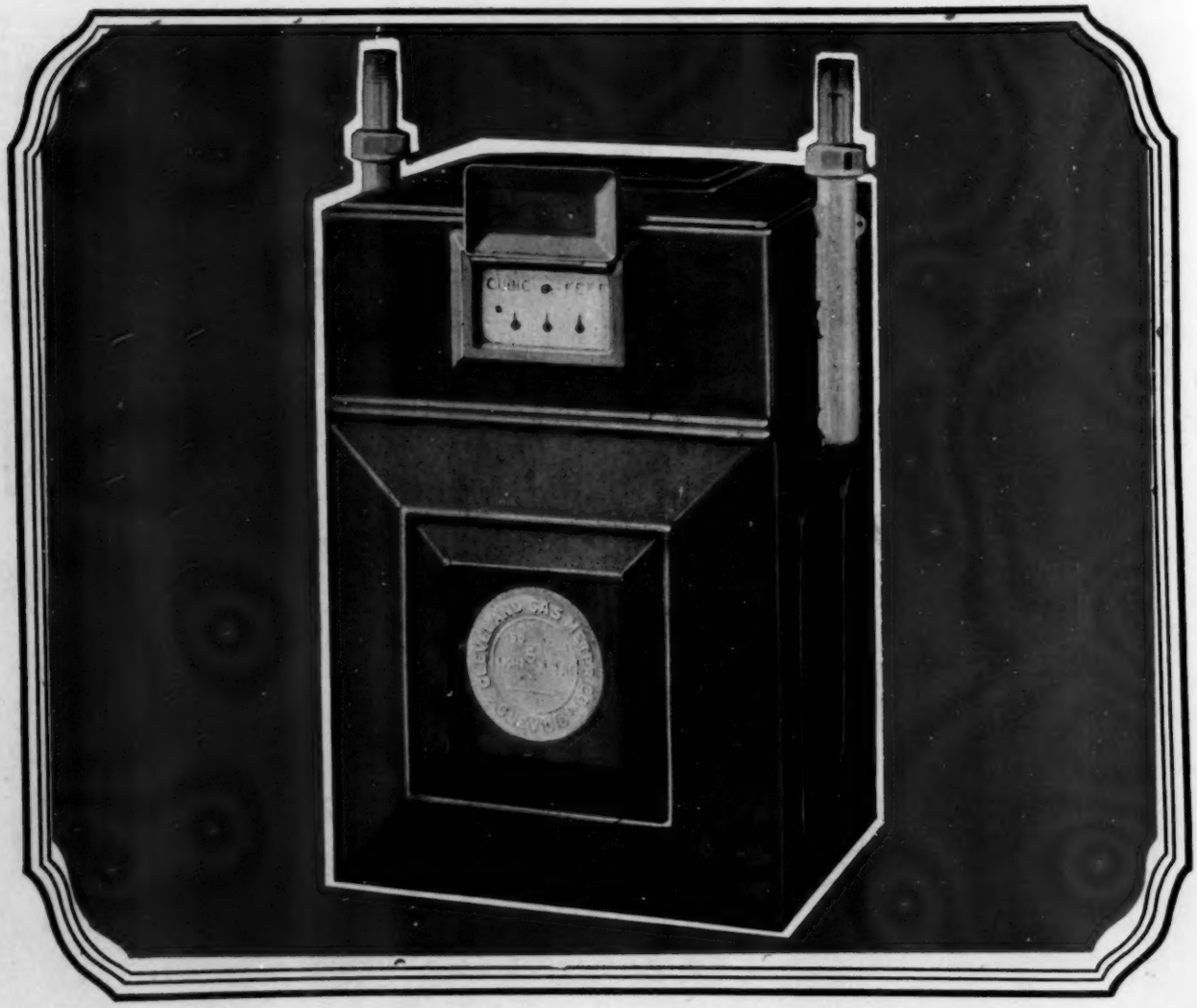

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AMERICAN
GAS JOURNAL

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Servicing Industrial Gas Equipment

The Baltimore company recognizes value of such work in building industrial business

Eugene D. Milener

Consolidated Gas, Electric Light and Power Company, Baltimore, Md.

ALTHOUGH the customer takes title to gas at the outlet of the meter, it is of absolutely no use to him at that point. To be of value to him it must first be conveyed to various points throughout his building and burned in such a manner as to perform useful work.

There are certain things necessary in order that customers may secure the greatest value from the money spent in purchasing gas, and a discussion of the most pertinent points may help to bring about a more general understanding of the need for properly servicing industrial gas appliances by the utilities.

The heating value of gas is approved by the regulating commissions and rigidly adhered to by the companies. Furthermore, all companies are making efforts to deliver gas at as near constant pressure as possible, so that we can assume that, except in emergency cases, the average customer experiences no trouble with satisfying his needs up to the point where the gas becomes his. It is the duty of industrial gas salesmen to see that inside piping of proper size is installed to maintain the needed pressure at the appliances.

Service Work Begins After Installations

It is only after industrial gas equipment is installed and provided with an adequate supply of gas that the work of the service men and complaint men begins. Every piece of mechanical equipment requires a certain amount of servicing, but the amount of responsibility for this service work assumed by different gas companies varies. The Baltimore Company has always felt that it is good business to render a rather complete maintenance service to users of industrial gas, with the result that a system has been built up that adequately meets the needs of our customers and pays for itself through increased good will and the continued use of gas for industrial heating operations.

There are five service men, one special service man, one test man and a foreman, who devote their entire time to the maintenance of industrial gas equipment and central house heating plants. During certain seasons of the year most of their time is devoted to servicing central house heating plants, but that phase of the work will not be discussed at present.

Card Index and Handbook

A card index handbook sheet is maintained for every industrial installation serviced. On the handbook sheet is recorded all data pertaining to the installation that will be of value to a man when he reaches the customer's premises. These data consist of name, location, nature of the business conducted, a list of the principal appliances and uses of gas, date of installation, meter and service size, etc. An important item is the name of the responsible person in charge of the factory and his title. Space is provided for special reports, but reports of most service calls are made by merely checking the items on the back of the handbook sheet. This list of items to be checked by the service man is designed to call his attention to each phase of the particular installation that needs inspection. Most of these items are printed on the form, but special items that apply only to a particular installation are filled in with ink by the foreman after the first inspection is made. This provides a form that is quite flexible and a glance at the reports gives a vivid conception of the service work that has been done on a customer's premises. Armed with this information, a service man can enter a customer's premises confident that

(688)—7555—6-25 Industrial Fuel

INDUSTRIAL GAS EQUIPMENT
SERVICE CALLS

LOCATION 123 W. Blank St
NAME John Doe & Co.

NATURE OF BUSINESS packing house

M. R. BOOK	LEDGER	FOLIO	DATE OF INSTALLATION
148		294-B	Aug. 15 1925
PRIMARY RATING	SCHEDULE	TYPE—CONSTANT SUPPLY	
25,000	C		

TYPE OF APPLIANCES 2 - Smoke Houses (Atmospheric Burners) 1 - Cauldron Furnace So gal

SERVICE	GAS LINE	SIZE PIT—GALVANIZED	SIZE PIT—CHAIN MAILED
2"	1½		
METER NUMBERS	SIZE	NUMBER	EQUIPMENT INSTALLED BY
	20	MB 195864	Company

PERSON TO BE SEEN: Mr. John Doe, Jr. Sup't.

REMARKS:
Plus/pr Instructed operator
E.D.M.

OVER

A Sheet from Handbook for Industrial Gas Service Call

he can meet the manager and make an intelligent inspection of the gas equipment.

Equipment of Service Men

A kit of tools is carried by each man. In this kit are pliers, screwdriver, a complete set of reamers, wrenches, brushes, oil can, etc. The men who use automobiles carry larger tools and a more complete assortment.

The number of yearly service calls depends upon the nature of the customers' use of gas and the kind of equipment in service. Very large customers, those who use certain special appliances, and all the large hotels are called upon by the service men three or four times a year—besides the calls made by sales engineers. All other industrial gas users are called upon twice a year. The installations serviced vary in size from small boilers with a demand of about 75 cubic feet per hour, used for steaming leather, to large enameling and metal decorating factories with hourly demands of from 15,000 to 20,000 cubic feet.

PLACE X OPPOSITE WORK DONE	SERVICE CALL NUMBER 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	CALL NO.	DATE	SERVICE MAN'S SIGNATURE
ADJUSTED BURNERS	X																	1	9/30/25	G. F. N.
CLEANED BURNERS	X																	2	9/30/25	G F N
CLEANED PILOTS	X	X																3		
[illegible]																		4		
[illegible]																		5		
[illegible]																		6		
[illegible]																		7		
TESTED FLUE PIPE AND DRAFT	X																	8		
TESTED CONTROL VALVES	X	X																9		
[illegible]																		10		
TESTED SUPPLY OF GAS	X																	11		
Tested Drain of Cauldron	X	X																12		
																		13		
																		14		
																		15		
																		16		
																		17		
SPOKE TO CUSTOMER ABOUT EQUIPMENT	X	X																		

Reverse Side of Handbook Sheet

Type of Man Required

The successful servicing of industrial gas equipment requires a peculiar type of man. He must be a white collar man, but at the same time must be ready to tackle any needed adjustment on customers' appliances at a minute's notice. He must understand the details of every type of gas burning system and be thoroughly conversant with all standard and many special appliances. He must know the company's policies and be able to intelligently discuss them with the person on whom he calls. He must have initiative and push enough to gain admittance to all plants in his district, but must have tact enough to keep from leaving the impression that he is offensive. He should have a certain knowledge of factory routine so that he can better judge whether the use of gas is dovetailing in the manufacturing process as efficiently as it should. He should have a personality that not only helps him to gain admittance to the customer's premises, but also creates a strong enough impression that the customer will remember his call. Needless to say, he must be thoroughly familiar with such things as meters, services, piping, flues, insulating materials, etc.

Men qualified for this work must be carefully picked and intensively trained for several months, both as to the mechanical phases of the job and the personal relations phases. Our experience in Baltimore has shown that ambitious shop complaint men provide the best source of supply.

Contact at the Beginning

The industrial service man is in contact with most installations from the very beginning. If the job is out of the ordinary, the salesman takes either the foreman or the district man to the premises during installation and goes over the details of the job thoroughly. In addition, he is introduced to the re-

sponsible head of the plant and to the person in charge of the particular part of the shop in which the gas equipment will be used. Upon completion of the job, the service man makes all necessary adjustments and familiarizes the operator or operators with the detailed working of the equipment. Sometimes it is necessary to instruct several shifts and frequently the job must be closely watched for one or two weeks before it is finally turned over to the owners. It is in such cases as this that the services of our special service man are utilized, preventing an interruption to the routine work of the regular men. After the job is finally accepted by the owner, the sheet is placed in the handbook and is inspected periodically along with other jobs in the district.

Service at a Crucial Point

As every industrial gas engineer and salesman knows, there are times when jobs become "shaky." This may be caused by a change in the manufacturing process of the company or, as is most frequently the case, by competition from some other fuel looming up. In such instances our service men, usually acting under direction of the salesman responsible for the job, make a very thorough adjustment of the equipment and attempt to locate any mechanical troubles that tend to make the job unsatisfactory. They assist in running tests and collecting data on the fuel that is offering competition. Most of this work is done by our special service man.

The Foreman

The foreman of industrial gas service men should be a man qualified by experience and expert knowledge of gas utilization to inspire confidence in his men. He should know general factory routine intimately, as well as the habits of cooks and chefs in hotels and restaurants. He should be active enough to follow the work of his men throughout the city and should see that records of service calls and office reports are properly written and kept up to date. He should be able to overcome all difficulties encountered by his men, except those of an extremely technical nature, when he should confer with the sales engineer or the department head. The whole success or failure of industrial gas servicing depends, in a large measure, upon the foreman.

Naturally the time required to service different plants varies, but experience in Baltimore has shown that on an average seven or eight per day should be covered. If the service man is successful in inspiring the factory foreman or hotel chef in keeping the gas equipment in perfect order, his own work is greatly lightened and more calls can be covered in a given time. This is one way of measuring the success with which the servicing is being carried on.

Covering Complaints

In Baltimore, complaints on industrial gas equipment and heavy duty cooking equipment are covered by the men who service these accounts. The men keep in communication with the office by making two telephone calls per day and any complaints that have been received are relayed to the men at that time. Complaints received on Sundays and at night are worked by the emergency crew maintained at the shop. If serious trouble develops the industrial gas service foreman is communicated with, the company maintaining a telephone in his home for that purpose.

Real Value to Company

It is hard to measure the value of a service organization in dollars and cents. That there exists a real value to the company there is no doubt. In Baltimore over 25 per cent of the entire output is sold to other than domestic customers and much of this is strictly competitive business. There is a real necessity of servicing this class of business and even where the spur of competition does not exist the company is compensated by having its larger customers constantly satisfied with their gas equipment. Spasmodic servicing does little good, but when a system is worked out, based on regularity, and executed by capable men properly supervised, it not only is appreciated by the customer, but ceases to become an expense to the company, paying for itself many times over by increasing the general use of industrial gas in a community of satisfied users.

ILLINOIS LEADS NATION IN USE OF MANUFACTURED GAS, STATISTICS SHOW

There are 52,000,000 persons in the United States who have manufactured gas service available. One of each 4.9 of these persons is a customer of a gas company, according to statistics for 1925 recently made public by the American Gas Association. This same figure was found by the Illinois Commerce Commission for Illinois for the year 1922. In 1923 it was lowered to one of each 4.7 persons and since that time the ratio of gas customers to population has increased constantly.

The sales of manufactured gas in the United States have doubled in the last ten years. During 1925, 421 billion cubic feet were sold by 984 companies to 10,600,000 customers, establishing a new high record. This is an increase of 16 billion cubic feet over 1924, the increased use of gas in industry and home-heating accounting for much of the gain.

SULPHUR FROM GAS PLANTS FOR VINES

Collodial sulphur, one of the by-products produced in the manufacture of gas, may become an important element in the protection and development of vineyards, according to recent reports.

It has been found that this sulphur is not only valuable as a fertilizer, but as a protection against various pests, and that it is superior to the commercial sulphur hitherto produced in Louisiana and Japan.

The gas-plant sulphur comes from the plant in a form that requires only the addition of a cheap filler, and is so fine that it is peculiarly adapted to dusting processes.

To produce a similar degree of fineness in sulphur it has heretofore been necessary to precipitate it in a lime-sulphur solution, a process both complicated and costly.

The Ideal Salesman--Who Is He?

How can one detect selling ability

Hartley G. Walker

President Pittsburg Water Heater Company

FROM time to time there have been brought to my notice formulas which describe the ideal salesman and prescribe the method of his selection. According to specification, this superman approaches 6 ft. in height, weighs about 180 lbs. and is about 30 to 35 years old. Some of the classifications go further and demand that he be married, have one child, but I can't recall whether he must be blonde or brunette. I am sure that no mention was made of the manner in which he combs his hair. This, to my mind, is just as important as most of the other requirements listed.

No attempt to classify human beings according to physical characteristics to perform certain mental feats, of which selling is one, can be given much consideration. The reason for this conclusion is obvious. Take some of the outstanding men who have accomplished big things. Steinmetz, the wizard of the General Electric Company, was small of stature, a cripple —Lincoln was tall. Neither was particularly impressive from the viewpoint of physical appearance. Yet each was so far beyond any to whom he might be compared that the accomplishments of these two will stand out forever. While neither was a salesman, I cite these two examples as evidence that one can't place an estimate on a man's mental capacities by a judgment of his physical makeup.

H. G. Walker, Pres. Pittsburg Water Heater Company

Importance of Physical Makeup

Would you hire as a salesman a man who has but one leg? The mere mention of a one-legged man brings to mind a vendor of lead pencils or shoestrings. One would think that his inability to get around would be too great a handicap. I know of such a man who does not let his misfortune handicap him. He asks no favors. He goes out each day with the idea that he has a certain job to do and he does it.

There is another salesman whose face has a decided racial cast, whose English might be described as befitting a second-hand clothing dealer. He, too, is eminently successful. His appearance is at variance with every one of the prescribed rules for judging salesmen, but each month his sales sheet proves what his physique would seem to disprove, viz., that he is a real producer.

Physical Deformities Don't Count

There are no limitations as to age or size. Physical deformities don't count. I do not mean that a man in a wheel chair could sell sporting goods, but even at that, if he is a good enough man, I have no doubt but that he could. What a man thinks is the answer to whether he can or he cannot.

If a man is willing to gamble his time against what you must invest in him, everything being equal, the chances are that he will succeed. The man who demands salary or who insists on a guarantee is not sold on himself and does not believe in the product he is pretending he wants to sell. The world is full of drawing account experts—the class that pays more attention to the expense report than they do to the corresponding sheet headed "Sales."

Analysis, Its Value

No chart yet devised can enable one to look into a man's mind to see what is there. This is the process that supersedes all mechanical formulas in the selection of men. How is this done? I don't know. The more analysis one gives successful salesmen the more convinced is he that they do not and cannot belong to any one class. As long as they believe in themselves and are determined to succeed they possess the most important attribute of success.

There is no formula—there can be no guide to enable one to say this man will be a success and that one will not. Real salesmen spring up from the most unexpected sources and the apparent winner is often the dismal failure. The most sane method is to observe the man's reaction to your terms and conditions. If he is satisfied to work under a contract which you know is fair and under which other men have succeeded, take him and let him rise or fall on the basis of his own merits. They all have to "show" you, anyway, to keep on the payroll.

PHILADELPHIA'S GAS PROBLEM

A comprehensive treatise has been issued by the Bureau of Municipal Research of Philadelphia on "Philadelphia's Gas Problem," which is a history of the Philadelphia Gas Works and discussion of modern standards of gas service and analysis of the present situation. The book starts with a resumé of the high lights in the history of the Philadelphia Gas Works since the beginning. It discusses the various methods under which the gas works have been operated; it tells the results other than financial that have been secured under several methods of management. A separate chapter is devoted to the financial results.

Window Displays That Attract

Two artistic displays by Consolidated Gas Co. of New York are described

Mrs. M. G. Anderson

"WINDOW shopping" is one of the most fascinating things one can possibly do in New York.

Recognizing the importance of the window displays and the value of attractive windows as sales adjuncts, New York merchants annually spend hundreds of dollars on window settings. High-priced artists are employed to lend taste and skill. Often unbelievably large sums are spent for special articles of display—wearing apparel, jewels, or what not. Designed solely for display, they create interest, arrest attention, causing the beholder to look, marvel, wonder—and, of course, enter the shop.

Passersby on 57th street recently stopped in large numbers to look at and admire the two unusual and attractive displays in the windows of the Consolidated Gas Company at 212 West 57th street. One of these shows a portion of the roof of a cozy, comfortable cottage with a window underneath the roof. Through the window is seen a baby's small crib in a corner of a room and a handsome doll, lying with closed eyes, simulates the child in the bed. At one side is a glowing radiant gas heater, brilliant with warmth and comfort. A sign nearby tells of "Cozy Comfort" at low cost—a radiant gas heater—no heat leakage up the chimney.

"A gas heater heats you."

Idea of Comfort Emphasized

The second window again illustrates the idea of comfort, showing the interior of a living room, delightfully furnished and heated by a radiant gas heater sending its cheerful glow and warmth to every part of the room. A very real dog lies in front of the fire—a dog so real that many stop to wait for him to move.

It is in the subtle touches, such as the placing of this dog by the fire, that the artist's skill has reached the highest mark. Here is, indeed, realism! By contrast with the evident luxurious comfort of the dog sleeping by the radiant fire, a picture on the wall catches the eye. Herein the lone wolf, come down from the hills, stands desolate, cold, alone, looking towards the little French village nestling in the picture beneath the ridge on which he stands, and from which stream out light and warmth, suggesting just such comfort as are shown in the cozy heated room where the dog sleeps so contentedly and which does not exist for the wolf.

A Touch of Artistry

The picture is the final touch of artistry, the lone wolf, desolate on the cold, snow-covered hill—the dog warm, comfortable, contented by a glowing fire—what could more subtly and more effectively suggest the contrast of comfort and discomfort?

The sign, at one side of the room, which tells that "in any room a radiant gas heater just coaxes you to be lazy" is scarcely needed, so perfect is the sense of realistic warmth and comfort conveyed.

To nine out of ten seeing the window the picture comes as a surprise, causing each to wonder if design or accident placed it there.

The Effect of the Picture on the Wall

Each person finds himself saying, "I wonder if they noticed the contrast of that lonesome wolf when they put that picture there," and each feels himself the discoverer of a contrast subtly conveyed. Here is conceit appealed to—for each one likes to think "I alone saw that."

In the first window it is the element of curiosity which attracts attention because of so strange a thing as the roof of a house in a gas company's window—the very unusualness of this draws one closer to see what is within.

The Picture on the Wall Is the Point of Contrast

In these two windows the Consolidated Gas Company's artist has not only completed the suggestion of romance and poetry lying back of the great gas industry, just as it does back of every great business, he has stressed two of the greatest of human appeals, curiosity and conceit, and has perfected two unusual and handsome window displays.

The Widening Ammonia Circle*

Resume of the commercial and technical developments during 1925 in synthetic ammonia and by-product sulfate

WHEN, early last September, the price of anhydrous ammonia dropped almost over night from 30 to 15 cents, the shock of the debacle stunned, for the moment, both producers and consumers. Although both had plenty of warning that our supplies were fast overtaking our increasing demands for ammonia; nevertheless nobody suspected that the price revision would be so sudden or so drastic.

Consumers are still rubbing their eyes and thanking their lucky stars for a price cut that, on the basis of a total consumption of thirty million pounds, has saved them some four and a half million dollars. Rightly or wrongly, they are crediting the newer synthetic plants with having been the cause of this saving to them. The producers are scratching their heads and wondering about the whys and wherefores of their broken prices, figuring costs anxiously with an eye to the additional production that will come into the market during 1926. Some say very frankly that the rout of ammonia prices might, if handled differently, have been made an orderly retreat that would have satisfied buyers as well as having given makers an opportunity better to adjust costs to selling prices.

Output Balances Consumption

The present situation has developed slowly and regularly. It is five years since the Casale process for the commercial synthesis of ammonia from electrolytic hydrogen was first offered to various American chemical makers. A little later the Claude process was brought forward, and both had been for some time in operation in Europe. The cost figures, not only of these processes, but also of the older Haber and Hausser processes, were so freely discussed as to be almost public property; and some of the larger ammonia consumers indicated plainly as long as four years ago, at a contract conference with the ammonia producers, that they considered the prices then asked too high. Whether or not a 25 per cent reduction at that time would have satisfied the consumers and effectively delayed the establishment of Casale and Claude plants in America can only be surmised; but some shrewd observers do not hesitate so to read our recent ammonia history.

Output Growing

During the past three years our output has grown by leaps and bounds, especially of the synthetic material; but an increasing demand has kept the situation from becoming acute. The older producers were not anxious to break the market and the new makers were anxious that it should not break since they had big research and plant investments to amortize. Except for a little cutting on a few big contracts in highly competitive territories, the price of ammonia held steady; but it was always threatened.

This was the delicately balanced market situation last fall. Two of the synthetic producers announced that they would materially increase their outputs in 1926 and it was generally understood that the new plant of Lazote, employing a modification of the Claude process, would be in production before another contract season came around. On top of this Armour and National Ammonia, two of the biggest consumers, switched their source of 1926 supply. Thus the price war was declared.

Will Prices Recover?

It appears likely that, despite the big increases in production, there will be a recovery of prices during the coming year. Supply and demand are at present apparently nicely balanced at about 30 million pounds of anhydrous. Something over half of this is supplied by Barrett and a quarter by the Ammonia Corporation and Mathieson added together. The Ammonia Corporation's output is at present greater, but Mathieson announces additions to come shortly. The balance of the stocks come from half a dozen producers, several of whom, notably Merrimac in New England and the Pacific Coast plant, are strongly entrenched in their own geographical sales market.

Price Tendencies

Any material recovery of prices, with a considerable increase in supply, would at first seem almost foolhardy prophecy; but ammonia production costs are so well known that even an outsider may figure for himself that current prices are not showing a proper return to makers. Already one of the synthetic producers has announced that sal ammoniac will be produced at their plant and there will be other diversions into various ammonia salts. Furthermore, the demand for refrigerating purposes is growing apace. The last couple of years have seen a rapid extension of the iceless type of apparatus in the soda fountain trade, in grocery and butcher shops, in fish markets, and for household use; and while it is true that many of the smaller machines are using sulfur dioxide, ethyl chloride and carbon dioxide as refrigerants, nevertheless ammonia still has the call for machines of capacity of one ton upwards, which are being installed in the larger stores, in hotels and apartment houses.

The Ammonium Sulfate Market

But undoubtedly the most important and far reaching effects are to be felt eventually in a field where, as yet, in the United States, there has been

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*From Drug and Chemical Markets.

little direct result, namely in ammonium sulfate.

Due undoubtedly to reduced output of the by-product sulfate, our domestic price has held up well at about $3 a hundred pounds. The foreign markets must always be considered in sulfate prices, and it is estimated that the output of synthetic sulfate will increase next year some 400,000 tons. Germany alone, during 1926, will exceed 400,000 tons of nitrogen and in all other countries will total 150,000 tons of nitrogen, equivalent, of course, to 3.8 times as much sulfate. The bank credit which the Sticksoff Syndicat have recently arranged will enable German consumers to buy as they require and pay on December 1, 1926, and so may increase the consumption in Germany and cut down available export supplies. To offset this, it is expected that the Japanese plant will become, during this year, a productive factor that will materially decrease Oriental demands. The annual report of the British Sulfate of Ammonia Federation, issued six weeks ago, records an increase of 11 per cent in the agricultural consumption of nitrogen in all forms and of 10 per cent in the sulfate. The same report points out that sulfate prices have declined, on the average the world over, some 8 per cent during 1925, and it forecasts still lower prices during this year ahead of us. The cause is set forth as the economic pressure in Germany; but it is worth noting that the Federation recognizes in lower prices the main reason for increased consumption. This is assuredly the logical result in all fertilizer materials, and there is no doubt that much can be done, especially in New England and in the South, to extend the use of sulfate on our own farms.

The Situation in England

Because of the position of British sulfate in the world's markets and the recent development of synthetic ammonia plants in England, special interest attaches to the situation in that country. The plant at Bilingham, operating Brunner-Mond modifications of the old Haber process, was originally constructed to produce 30 tons of ammonia daily. It has been already increased to a capacity of 50 tons, and with the Government guaranty of $10,000,000, an output of 200 tons daily is projected. This would give an equivalent of 760 tons of sulfate per day; but it is understood that a substantial portion of this ammonia will be converted into other compounds. Obviously the company is well satisfied with its process and looks with confidence upon the future markets for ammonia salts.

British Extensions

British producers of by-product sulfate naturally look upon the extension of the synthetic industry, not only in England and in Germany, but also in Japan and the projected plants in India and Java, with concern. They are, however, tackling their problems manfully, setting an example which our steel mills and gas works will do well to follow. So good an authority as P. Parrish has stated boldly that at the present time in England a by-product plant producing less than 750 tons annually cannot be operated at a profit; and a similar elimination of the smaller producers is generally felt to be the logical outcome in America. The collection of crude liquors from the smaller plants and its conversion into sulfate at a centrally located chemical plant, after the manner of the Merrimac operation in New England, appears to be almost inevitable, especially where state sanitary laws make some chemical disposition of effluents containing ammonia imperative.

By-Product Costs

The costs of manufacturing by-product sulfate have been subjected to keen scrutiny. They center, of course, upon the cost of steam and sulfuric acid. Along the first line relief is being sought in technical efforts to produce a more concentrated and less toxic liquor from the coal gas. Several alternative processes, eliminating entirely and cutting down materially the use of acid, have been experimented with. So far the most promising is the so-called gypsum method, which has demonstrated its economy in converting synthetic ammonia to sulfate and which is being adapted to by-product technique. Another well regarded method is the production of the sulfite salt by the reaction of ammonia and steam with air and sulfur dioxide. The sulfite is rapidly and easily oxidized in the presence of air to the sulfate.

In the meantime there have been advances in the chemical and engineering technique of the synthetic processes. The apparatus for handling the comparatively high pressures which are used have been continually perfected, and at the same time new catalysts have been brought forward which make the necessary reactions possible at substantially lower pressures. Calcium ferrite is to date the most generally accepted of these newer catalysts, but other ferrites and ferrates also are frequently met with in the patent literature.

RADIO FACTORIES USE GAS FOR FUEL

The radio set of today, intricate, efficient and handsome, is the result of mass production and scientific heat application. From the polished cabinet and panel to the delicate tubes and condensers, accurately regulated heat plays an important part, and manufactured gas has come to be the chief fuel in many processes.

The cabinet is made of wood which has been dried in a gas-heated kiln, and the pieces are held together by glue from a gas-fired pot, while the front panel is made of molded bakelite, fused into its mold by gas-heated plates automatically held at an exact temperature.

The tubes, the most delicate part of the apparatus, are made by a process similar to that used in manufacture of ordinary electric bulbs, in which gas heat is used both for heating and annealing. Gas and glass have been closely linked ever since the development of mass production of glass specialties, and the making of radio tubes is one of the most successful applications of heat held within narrow variations of temperature.

Direct Mail Advertising*

What it signifies and how it should be conducted

Homer J. Buckley

Pres., Buckley, Dement & Co., Chicago; Pres., Advertising Council, Chicago Association of Commerce

ONE of the most fertile fields for the effective and intelligent application of direct mail advertising as a potential resultful product of tangible business is among the gas companies of the United States. And yet it is a field that seems to have neglected or disregarded its use on any intelligent plan of operation such as can be found among industrial and distributing merchandising firms of the country.

Direct mail advertising is not practiced with any degree of intelligence approaching a carefully developed plan, in the gas industry, because too many commercial managers have not given it the proper consideration that they should and, further, because they have left this important branch of sales promotion to haphazard putting together an eleventh-hour preparation by some subordinate who is not qualified by experience to do the job right.

Amateurish Effort

My analysis of gas company direct mail advertising proves to me conclusively that it is amateurish—decidedly amateurish.

Here and there I find some fairly good efforts employed on customer ownership sales work, but even in those instances it is spasmodic.

Building the right kind of direct mail advertising requires a complete and thorough understanding of the sales approach.

If personal selling requires tact, personality, approach, interest and action to enthuse the prospect to the point of purchase and the decision to buy, then it must be emphatically understood that not only are the requirements necessary in direct mail, but they must be so organized that every point is cleverly worked out to get the attention and interest of the prospect, under conditions which the personal salesman can determine, but which the direct mailing cannot control in the same degree, and what you say, how you say it and when and to whom you say it means success or failure.

I venture the statement that 60 per cent or more of the so-called direct mail advertising issued by gas companies is wasteful and I say this because my check-up shows that most gas companies use it in a hand-to-mouth fashion, with no thought of continuity.

What the gas companies require in their direct mail advertising is a unified plan and objective with a good follow-up system.

Good Follow-Up System Required

You commercial managers must get this thought firmly fixed in your minds. While you are affiliated with a great public service corporation, and in many instances enjoying a monopoly of your basic product, you are nevertheless managers of a great retail business—and while many needful and useful appliances are your great merchandise offers, you are nevertheless selling a service, and service is the biggest thing in business. It's the thing that produces profit, good will, increased sales and satisfied customers. Selling the use of gas appliances is your big job today.

Recently I built a new home and, like many other men who undertake such a project, I was looking about for new ideas of economy, comfort and convenience. I answered an advertisement of the Bryant Domestic Gas Heater and got a very courteous and prompt reply from them saying they had forwarded my inquiry to the gas company in the village where I resided. Over a month elapsed before I heard from the local gas company, and then only a perfunctory reply, asking me to call.

Here I was, a good prospect for many new appliances, building a new home, and from that day to this I have not heard from the gas company.

They had no follow-up on inquiries of new home builders.

They had no direct mail plan.

Poor Idea of Plan

Their idea of direct mail was putting an occasional stuffer in the envelope containing the gas bill.

The result in my particular case was another company got the order for the gas heater, the water heater and the gas stove.

My experience is not unusual—it's typical of what is going on every day in the year.

Direct mail advertising is the medium of sales promotion that you can use—to make sales at the point of purchase—and if there is anything needed in your business today it is more concentrated effort to create interest in the uses of gas, with emphasis on the economy, convenience and comfort of gas, and with this thought put over to your customers you can double the sales of your appliances. The fault that I have to find and, mind you, I am offering this criticism, not for the sake of finding fault, but rather to be helpful, is that the gas companies' direct mail advertising is one time efforts.

What would you think of a salesman who called on a prospect once—and did not get an order—and didn't come back again? And yet one of the outstanding sales managers of the country tells me that

(Continued on page 142)

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*Presented at the Commercial Section, Seventh Annual Convention, American Gas Association, Atlantic City, October 14, 1925.

As The Journal Views It

GAS THE THERMAL EXPERT

There is no industry, there is no organized business enterprise, there is no individual that can attain substantial and permanent success in society, as it is constituted today, unless it renders some definite service. There is no product that is sold just because the seller wants the buyer to purchase it. It may be, of course, that at times such sales are made, but they have no lasting effect. A buyer will not purchase an article merely because the salesman urges him to do so, and if he does make a purchase under stress he regrets it later and in time the greatest loser is by no means the buyer but the seller. There may be exceptions to these rules, but as a general proposition it is true that one must perform some definite service, must do his bit to improve the general conditions of society, to effect some saving, to render mankind happier in some way, if he is to be successful in his undertaking.

There can be no doubt in the gas man's mind that a prospective buyer of gaseous fuel will buy the gas just because he wants him to. If sales of industrial gas are made on this basis, the gas company will soon find that they are not permanent, for along will come some other fuel salesman who will perhaps use more effective methods and supplant gaseous fuel where it has been used. Such temporary sales of gas, which are accomplished by force of sales arguments or by personal magnetism, are really of no value at all to the gas industry.

It is not at all necessary that the industrial gas salesman proceed in this manner in making his sales. The gas industry has existed for a definite purpose and has done a great deal to improve general living conditions in the home. That is the reason primarily why gas has been used so largely as a fuel in the kitchen, in water heating and for other domestic purposes.

Gas has a similar function to perform for industry and, in performing that function, it renders distinct service to the manufacturer and, in fact, so marked has this service been at times that gas has been welcomed, not as a competitor of other fuels, but as a real benefactor.

Gas is an expensive fuel. There is no question about that. When compared with the other fuels, with the exception of electricity, that are used in industrial heating operations—except under most unusual conditions—the cost of gaseous fuel will be greater than that of the others. The gas man and the gas industry is not concerned with fuel costs, considered in a narrow sense. Gas is a fuel which makes for efficiency. The gas man's function in the industrial world is to teach the manufacturer thermal efficiency and, not only that, but labor efficiency and mechanical efficiency as well, as applied to thermal operations. The gas man must be a thermal expert and in selling himself to industry he must sell, first, thermal efficiency. If he does this, the sale of gas will thereafter be easy.

The question has sometimes been raised as to the advisability of gas men attempting to tell a manufacturer how to perform his manufacturing operations. There should be no misunderstanding about this matter. The gas man, as a thermal expert, will know, in a great majority of cases, a great deal more about heating operations than the manufacturer, just as the transportation expert selling conveying machinery will know far more about plant transportation problems than the factory superintendent or manager. Both will be received with open arms because they will both be engaged in promoting the best interests of the manufacturer by teaching him how to attain greater efficiency in certain parts of his operations. It is not up to the gas man at all to tell the manufacturer how to make his product. but it is distinctly his function to teach him how to attain greater efficiency in his operations wherein fuel is used.

Thus, the gas man has a definite function to perform for industry just as he has been performing a similarly definite function for the home. When industrial business is approached from this standpoint and when a careful study is made of the thermal details so that gas may be put in a position actually to improve thermal operations, then there can be no question but that, when gas is once sold for an industrial heating operation, it will remain sold permanently.

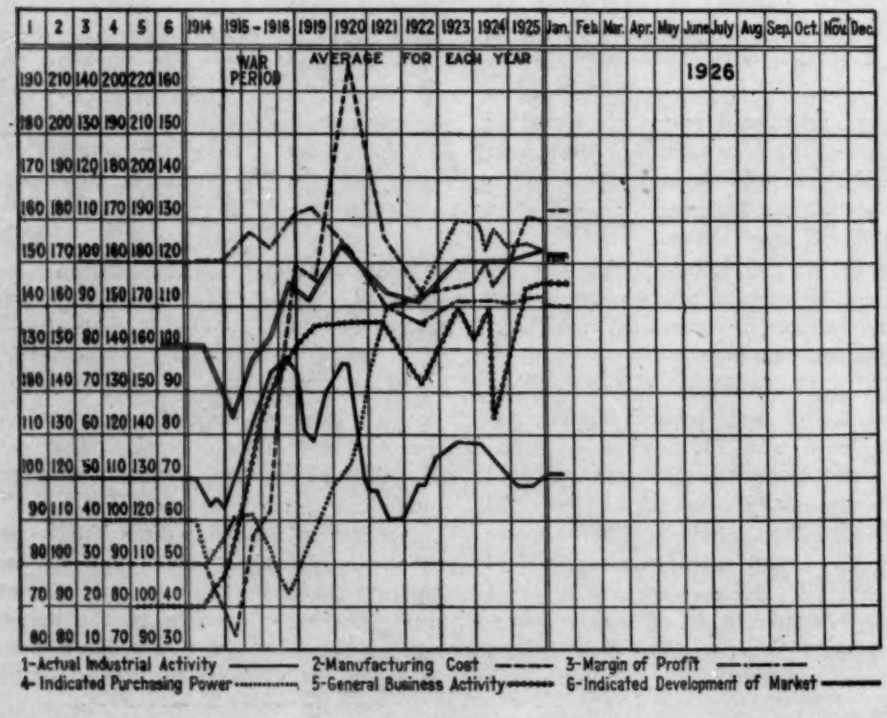
Market Keeps Improving

Problems of prosperity occupy mind of industrial producer

L. W. Alwyn-Schmidt

IT is usual to open the near year with official pronouncements, more or less sanguine in nature. So far, business is inclined to look at the bright side of things and prosperity, being always very much a state of mind, it is almost certain that no early setback will occur. But even prosperity has its commercial problems and the duration of the present upward curve of the economic wave will depend very much from the manner in which business men will be able to deal with these problems.

There is a marked difference between the price problem of farm and industry in their respective relation to production cost. This is not fully understood by either side and is one of the principal causes of economic friction between the farmer and the industrial producer. The cost of farm produce to the farmer remains an unknown quantity for the farmer until the harvest. Only after this has taken place is he able to obtain a correct estimate of the volume of his product. In consequence, there is no possi-



The principal danger in the present situation is the recurring tendency towards rising prices. This was noticed last year and has become more pronounced with the beginning of the present year. The condition itself is by no means surprising. It is frequently the result of a strong buying movement, following a prolonged economic depression, and there is no real remedy. The economic machinery works less smoothly after having been dormant for a long period. To set it in motion necessitates added expense for raw materials, the hiring of labor and often repairs. Just now the situation is aggravated by the rapid rise in the cost of foodstuffs which, while strengthening the farmers' purchasing power, adds materially to the cost of living.

bility for the farmer establishing a correct percentual relationship of cost to value of production, as he never knows how large this volume will be. Production cost may be large or small. It is very largely a matter of luck. The industrial producer, on the other hand, may estimate fairly correctly the cost of the material and the effort made in its improvement, having in addition an almost complete control of the quantity of each article under manufacture.

Situation of the Manufacturer

The situation of the manufacturer is approximately as follows: Food prices are apparently on

(Continued on page 142)

GAS MERCHANDISING

Domestic – Industrial

Ideas for the Man Who Sells

William H. Matlack

BROADSIDES BRING THEM IN

DIRECT mail, if properly gotten up, will assist materially in making other forms of advertising productive. We know of department stores that employ this type of advertising exclusively in cities of from 10,000 to 15,000 and others that employ it in connection with their newspaper advertising in cities with populations up to 100,000 and they do it regularly. F. L. Marshall, formerly general manager of the Gas Light Company, Augusta, Georgia, was an advocate of the use of this type of advertising and two years ago sent out the special broadside reproduced on this page. This is a three-way advertisement, as may be seen, viz.: first "what the woman looks for, second, what the gas range has done for the woman, and last just the range the woman is looking for"—that is, we tried to make it out in that fashion. Does it give you a copy angle?

ORIOLE
GAS RANGES
How The Modern Gas Range Helps The Home Manager
By WILLIAM H. MATLACK
A POPULAR MEMBER OF THE FAMOUS FAMILY
What Women Look for in a Gas Range
A HOME MANAGER'S STORY
ORIOLE
ORIOLE
LOOK for these
Special ORIOLE Features
WHEN YOU BUY A GAS RANGE
TO SERVE YOU SATISFACTORILY
THE GAS LIGHT COMPANY OF AUGUSTA
Telephone 222
804 BROAD STREET

A PROSPECT CARD

FROM time to time we have reproduced in this department examples of prospect cards used by various gas companies, with the idea that they would interest sales managers. The one we are reproducing here is a little different from any we have reproduced heretofore. The front (shown) explains itself, while the reverse side is used for report purposes with the headings "Date Called," "Report Made By." At the bottom of the card is printed, "Do Not Destroy This Card, After Completion File." These cards are printed on a light-weight linen and are punched with three holes for ring binders, size of cards being 3x5 inches.

Call Back Dates | | | | | | | | | District Number

○ STANDARD PROSPECT CARD — GAS DEPARTMENT

Name

Address

○ Prospect for

REMARKS: (Write in here all information you have concerning prospect.)

○ Taken by — Date — Time

Prospect Sold, Date — by — Prospect Dead, Date — by

Call O K's

See other side for report on call—Fill out completely

ILLINOIS RESEARCH MAY ABOLISH WASTE OF FUEL AND SMOKE NUISANCE

Two important problems confronting the United States—the abolishment of the smoke nuisance and the conservation of fuel resources—may find their solution in Illinois when the possible results of successful experiments in coking the State's coal and its use in the manufactured gas industry are known.

Already Illinois coal is being used in the manufactured gas industry in considerable quantities. Experiments conducted under the auspices of the Illinois Commerce Commission, and research work of the University of Illinois, indicate that technical difficulties are being eliminated and that in the future, through conversion into gas, each ton of coal will give much more heat than at the present time, and will be burned without smoke.

The importance of this is shown by figures recently published in the Gas Age-Record. They show that bituminous coal furnishes 63 per cent of the heat used in industry, anthracite coal 5 per cent and manufactured gas 2 per cent.

Illinois, with its greatest of all bituminous coal deposits, may, through its experiments and research, lead industry to the use of manufactured gas for smoke elimination and fuel conservation.

Gas companies are developing new uses for gas as well as new processes for its manufacture. Last year's production was nine times as large as the production in 1890. Only 20 per cent of the output was used for lighting. About 30 per cent was used in more than 65,000 industrial operations and new uses for gas in industry are found daily.

GAS COMPANIES IN U. S. PAY $76.08 IN TAXES FOR EVERY MINUTE OF YEAR

Taxes cost the gas companies of the United States $76.08 every minute of the day and night, week days, Sundays and holidays included, comments the Pennsylvania Public Service Information Committee.

The total amount of taxes paid yearly by the industries furnishing gas service to factories and homes in this country is approximately $40,000,000 at the present rate. A canvass of 213 representative gas companies showed a tax increase during the past year of nearly $250,000 over the year before.

The 8.2 per cent ratio of taxes to gross revenue represents a heavy burden for the gas industry. A combined income statement of 261 electric railways as reported in May, 1925, indicates a tax ratio of 6.7 per cent of gross income, and comparisons in other industries show a similar discrepancy.

The tax burden becomes even more evident when figures are added covering the returns of 381 gas companies. These tax and gross revenue additions result in a tax ratio of 8.7 per cent of gross income. This indicates the $40,000,000 total tax assessment on the industry in 1925.

John O'Connell, 70 Years in the Consolidated Gas Co.'s (N. Y.) Employ, Greeted by President Cortelyou
Seated (left to right): Dr. Alexander C. Humphreys, Pres. Stevens Institute of Technology; W. Cullen Morris, Chief Engineer, Consolidated Gas Co. of New York; Walter R. Addicks and George E. Woods, Vice-Presidents of that Company; George B. Cortelyou, President of the Company, greeting the guest of the evening and guest of honor, Mr. O'Connell.

INDUSTRIAL GAS LESSONS

IF IT'S DONE WITH HEAT — YOU CAN DO IT BETTER WITH GAS

Lesson No. 107

Combustion

Another Classification of Coals

Another way of defining a solid fuel is based on making what is known as approximate analysis of the same. This analysis is carried out according to directions which have been worked out by the United States Department of Mines, Geological Survey. Thus, for example, the coal is taken and pulverized in a certain manner and then heated under exactly defined conditions to determine in the first place the percentage of moisture that it contains. Then the remainder may be burned completely and what is left is considered as ash. The difference between the sum of these two figures and 100 per cent will then give the percentage of combustible matter that is contained in the coal. This combustible matter is made up of volatile and fixed carbon. The volatile matter is obtained by heating the coal under very strict conditions for a given length of time, the action of the heat being to drive out those constituents of the coal that are combustible but that distill off at comparatively low temperatures. Hence the name volatile matter. The remainder of the combustible matter is known as the fixed carbon. These various factors identify a coal and determine as well the use to which it can be put. Thus, for example, in the case of gas coal the most important definitive characteristic is the percentage of volatile matter in the coal. In the case of a hard coal, such as is used in the large cities for house heating, the percentage of fixed carbon is important. The percentage of ash is important in all coals, for the more ash the coal contains the less will be its calorific power, all other characteristics remaining constant.

The third way of defining a solid fuel is to make a complete analysis of the fuel. Thus, if the fuel in question were a gas coal, then the complete analysis would indicate the percentages of carbon, of hydrogen, of oxygen, of nitrogen, of sulphur, of silicon and other elements in the coal. As we have seen above, the only elements that are of importance from the standpoint of combustion are the hydrogen and carbon.

Wood

Wood is a fuel of some importance, although it may be considered insignificant as compared with coal. As has been mentioned above, it is the starting point from which solid fuels are derived. Wood is a complex substance. It is essentially cellulose, but there are various other substances contained in wood besides pure cellulose. Cellulose is a chemical compound whose composition has not yet been absolutely defined, and which contains oxygen, carbon and hydrogen. All woods contain variable amounts of moisture as well.

The process of conversion of wood or vegetable matter into coal is known as carbonification. The process is one of decomposition of the wood substances with the formation of vapors, which remain as permanent gases or are condensed to form liquids. The older the coal the harder the coal and the less volatile matter there is in it. Thus, the more complete the composition. Peat and lignite, which are of more recent origin, bear a very definite resemblance to wood. The gas that was formed during the carbonification may be imprisoned in porous stone and is known as natural gas, while the condensed vapors may now be found in the same im-

CLASSIFICATION OF COALS
Sample of Coal
At Left:-
Heated with small flame to drive off moisture.
Below:-
Heated strongly to burn off all carbon, leaving ash.
Volatile matter is determined by heating — under special conditions.
These tests serve to differentiate between Coals.

prisoned conditions and are known as petroleum or crude oil.

The wood of the maple, oak, pine or willow will average around 49 per cent of carbon, 6 per cent of hydrogen and 45 per cent of oxygen and nitrogen. In comparison, pure cellulose contains 44.44 per cent of carbon, 6.17 per cent of hydrogen and 49.39 per cent of oxygen.

The formation of coal from wood is a process which is in the nature of a partial decomposition. The pressure and temperature conditions under which it takes place determine the character of the coal. Thus high pressure will tend to produce a coal that contains comparatively little volatile matter, in other words, an anthracite.

MARKET KEEPS IMPROVING

(Continued from page 138)

an upward curve, which will necessitate higher wages and a larger outlay for many raw materials narrowing down the industrial profit margin. The simplest remedy would be an increase in the price of the industrial product. But such an increase would wipe out the advantage which the farmer today has gained by his higher earnings. It would reduce his buying strength. As the latter is the best asset of the market and the principal cause of our new prosperity, it is very doubtful whether this solution will be the most desirable one. While, therefore, a reasonable increase in the cost of industrial commodities may be expected, and no doubt will occur, it is necessary that industry find a better remedy to deal with the situation. Scientific management will bring about the solution and it is the manner of its application that will provide the real foundation and the measure of our coming prosperity.

The problem consists in finding a correct answer to the question: How to neutralize the pressure of the increasing cost of production upon prices by reducing its effect upon the ultimate cost to the consumer.

Two Solutions

There are two solutions for the problem.

The first is to find means of increasing the volume of production without increasing the industrial effort.

The second is the substitution of merchandise which, while higher in price and therefore capable of standing increasing production cost, is of such value as to justify its higher price by giving greater satisfaction to the consumer.

Most manufacturers who have faced the situation squarely have decided apparently to select the second course. They hold that labor saving in production has reached a point where only far-reaching changes can produce a sufficiently large increase in volume of production to have a far-reaching effect upon the cost of each unit. They hold that the present system of reducing production costs in order to reduce the price of the unit has reached a point where the quality of the article suffers. They hold especially that quality can be added to the product without increasing materially its cost of production, giving the consumer a better dollar's worth than he has received in the past.

It is almost certain that the latter opinion will prevail and that a foundation will be laid in this manner for a prolonged period of prosperity. No boom conditions are expected in the industrial field for the present and there is little reason to expect anything but a steady but slow upward movement of the economic curve.

DIRECT MAIL ADVERTISING

(Continued from page 136)

this one thought is the reason for such heavy mortality in personal selling.

Too Many One-Time Salesmen

There are too many one-call one-time salesmen.

The records of 1,000 retail merchants who kept an accurate check on salesmen's calls over a period of a year for their trade association resulted in this situation.

48% of the salesmen made one call and did not call again.
25% of the salesmen made two calls.
15% of the salesmen made three calls.
12% of the salesmen made four calls or more.

And the orders given by these merchants showed that 87 per cent of the business placed was given to those salesmen who called four times or more.

It was the persistent calling and telling that got the business—not the one-time calls.

So it is with direct mail advertising, which is the next best selling effort you can employ to personal selling.

When you use direct mail selling you do not have to contend with many of the handicaps and costs of personal selling.

Postman Calls Every Day

Direct mail does not know rainy days or stormy days—Uncle Sam's postman calls every day.

The postman gets the interview when salesmen are turned away—nobody home. And you can make the call and tell your story at a cost of one-tenth of personal selling.

I said something a little while ago about qualifications to prepare direct mail advertising and the tendency to leave this to just "somebody."

I want to emphasize that successful direct mail advertising is a highly specialized job, requiring understanding far beyond copy-writing and pretty pictures put together in the art of printing. It requires planning, analysis of the reason why—then a plan—and, most important of all, a study of the market—the mailing lists.

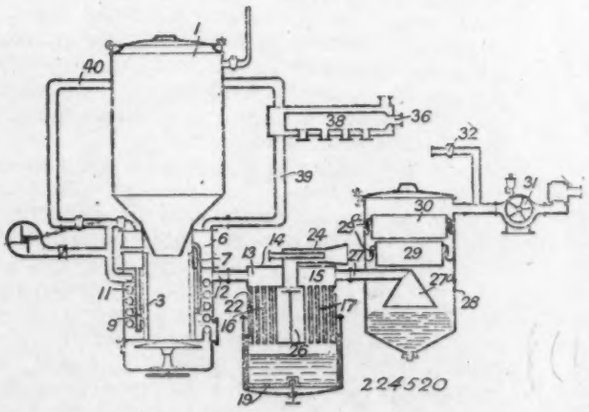
Every gas company can round out their general

(Continued on page 144)

PROGRESS IN GAS TECHNOLOGY
Domestic and Foreign

SEMI-WATER-GAS PRODUCER PLANTS

GAS made in a generator, 3, passes down circularly disposed tubes, 7, into the space surrounding the coil, 11, and thence through the outlet, 12, down the tubes, 16, and up the tubes, 17, of a cooler, air being drawn over the tubes and through a chamber, 26, by means of an injector, 24, operated by the exhaust of an engine. The gas is then directed on to the surface of water by means of the tapered pipe, 27a, and passes through suspended coke filters, 29 and 30. The gas, thus purified, is mixed with air drawn in through the valve, 32, compressed in the compressor, 31, and supplied to the engine. The air supplied to the generator is drawn in through the opening, 36, preheated by contact with the engine exhaust collector, 38, and passed by a pipe, 39, to a boiler, 6, the air and steam from which meet an additional air supply from a pipe, 40, and are superheated in the coil, 11, before entering the bottom of the fuel bed. Field tubes, 9, depending from the boiler assist in heating the water.—(British Patent No. 224,520.)



DETERMINATION OF HYDROGEN AND METHANE IN ILLUMINATING GAS

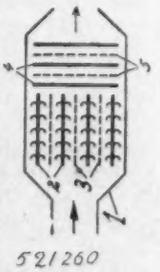
AFTER absorption of carbon monoxide in the usual way with ammoniacal cuprous chloride solution, the Hempel or Winkler burette containing the remaining gas is connected to a second burette, containing a known volume of pure oxygen, by means of a capillary quartz tube, inside which is a thick platinum or palladium wire. The quartz tube is heated very gently with a small flame and the mixed gases are passed backwards and forwards until constant volume is attained. The metal acts as a catalyst; the hydrogen only is burned and is determined by the contraction measured. The capillary is then heated to a clear red heat, and the process repeated. The amount of methane can be calculated from the contraction in volume or the carbon dioxide formed can be absorbed. Alternatively, as soon as most of the hydrogen has combined, the capillary is strongly heated and the remaining hydrogen and the methane are burned at the same time, without risk of explosion. The method is rapid and accurate.—(Chem.-Ztg., 1925, 49, 901-902).

INCREASE OF SULPHUR CONTENT OF GAS DURING BENZOL EXTRACTION

IN a benzol extraction plant it was customary to return the residual oil, after acid and alkali treatment of the crude benzol, followed by distillation, to the wash oil. Analysis showed that this residue contained over 2 per cent total sulphur against 0.67 per cent in new wash oil and that the sulphur content of the wash oil, in consequence, gradually increased. Qualitative tests with lead acetate showed a higher sulphur content in the gas after washing for benzol, and that when sulphur-free gas was passed through the oil of high sulphur content it took up sulphur. It is recommended that the sulphur content of wash oil should not exceed 1 per cent. The use of acid-washed oil for benzol washing is undesirable.—(Gas- u. Wasserf., 1925, 68, 658-659).

ELECTRICAL PURIFICATION OF PRODUCER GAS

THE raw gas which is to be purified is conducted from the gas generator through the pipes 1 and 2, as shown in the accompanying figure, to a cooled holder 3, and in this holder gas is sprayed by means of suitable spraying devices, seen at 4, with the aid of purified tar. The condensate which is fed into the holder 3 through the spray 4 is maintained in circulation until it is sufficiently saturated with water. In the course of this circulation the cooling action of the condensate is lessened in accordance with the degree of moisture that it contains, so that eventually an equilibrium must be reached.



To obtain this equilibrium the gas, after having left the cooled holder 3, is led through the pipe 5 into a cooling tower 6, which is irrigated by means of a cooling liquid, for example water, which flows from the spray 7. From this tower 6 the gas finally passes into the electrical purifier 9, and when it leaves this apparatus through the pipe 10 it has been thoroughly purified.—(German Patent No. 521,260).

(Continued from page 142)

advertising program by the intelligent use of direct mail.

A "Direct Mail" Story

Mr. J. V. Long, of the Philadelphia company, over at Pittsburgh told a very interesting story at our recent direct mail convention, of what their company was doing in applying direct mail and follow-up methods in selecting this one instance.

"We took a store that was operating at a loss of $20,000 a year and within three years built that store up to a point where it was making a profit of over $25,000 per year. With the same mailing list, we sold 350 washers in one month, an achievement unknown previously in the electrical appliance industry. These machines, selling at $150, were not ones that would move easily but, as I said, we sold 350 of them in one month by the use of direct mail.

"In a little over a year we have installed 23,000 of a certain type of fixture in the homes of Pittsburgh. And in a campaign consisting of four pieces of direct mail matter to 1,200 storekeepers, we were successful in securing orders for over 300 of these customers of ours."

Right here I want to bear down heavy on the fact that too many gas company men think they have a perfect list because they have the actual names of gas users and meter installations, and here is where a great waste often takes place.

Lists Should Be Inventoried

Lists should be inventoried, classified and sub-classified and the campaign planned to meet the needs of each group, enabling the presentation or sales talk to be made to:

1. Homes with small children.
2. Homes with garages without heat.
3. Residence homes and number of baths in homes.
4. Apartment homes to be eliminated on certain appeals.

And many other groupings that do not occur at the moment. This enables the direct mail to be planned on a selective basis—and not on a mass basis —which in my opinion is wasteful and expensive.

Must Be Understood

You must understand direct mail advertising in the general scheme of advertising and selling if you are going to use it right—and I tell you very frankly that it is a selective medium and its work usually begins where other forms of advertising leave off. You can use it:

1. To bring customers into your store.
2. To get inquiries by 'phone, mail and personal visit to your office.
3. To pave the way for a salesman's call.
4. To cultivate a broader and a more general appreciation of the use of gas.
5. To make direct sales.
6. To cultivate a spirit of service and make friends and boosters of your company.

Advantages

Its distinct advantages as a means of sales promotion and business building are enumerated in the following points:

1. By using good lists of logical prospects there is a minimum waste of printed matter.
2. You can reach all your prospects in a field within a few hours.
3. Mail advertising can be used to secure business direct or to prepare the way for and back up your salesmen.
4. You can take advantage of an opportune market, or business conditions, through appropriate advertising released at the psychological moment.
5. Direct mail appeals—especially letters—have an intimate personal touch that carries weight with prospects. A letter or a mailing folder is a talk to one man in his easy chair at home after dinner, or at his desk during the day.
6. Your sales strategy is hidden from competitors. No one knows the nature of your communication except those who receive it.
7. It permits you to key results. Direct advertising has the one great advantage of remaining under the eye of the one for whom it is working. He can watch it, guide it and develop it intelligently.
8. You can get prompt action. Your proposition is placed in the hands of your prospect, accompanied by an order blank, return envelope, postcard or other medium of reply.
9. You can build up an intimate, personal acquaintance and good will among your prospects and customers at relatively small expense.

PUBLIC UTILITY COURSES AT RUTGERS UNIVERSITY NOW OPEN TO EMPLOYEES

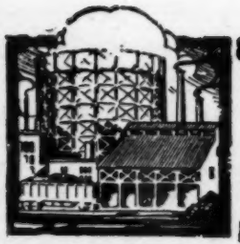
An industrial extension division has been installed at Rutgers University, New Brunswick, N. J., by Professor N. C. Miller, formerly at Penn State College.

The courses of instruction offered by the university to public utility employees include class instruction and correspondence courses.

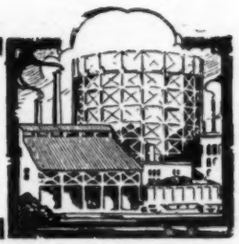
Among the subjects given in the outline prepared by Dr. Miller are mathematics, mechanics, mechanical drawing and engineering, electrical and industrial engineering, building construction and public utility courses.

In the study of public utilities a preparatory course is intended to give employees a knowledge of technical matters as well as information of a more fundamental nature.

The course on public relations and public utility economics was prepared in co-operation with a number of public service executives from the gas, electric, telephone, street railway and water supply industries.



NEWS OF THE GAS INDUSTRY



New England Gas Men Meet in February

The New England Association of Gas Engineers will meet at the Hotel Somerset, Boston, Mass., on February 24th and 25th. The program that has been prepared for the meeting is as follows:

Wednesday, Feb. 24, 1926—Meeting called to order by the president, 10 a. m. Reading of records of last meeting, report of directors, election of new members, report of secretary, report of treasurer, reading of list of deceased members. Address by President H. N. Cheney, Boston, Mass. Address by C. E. Paige of Brooklyn; subject, "Sales—A National Problem and Its Answer." Communications from other associations. Paper by R. E. Kruger of Rochester, N. Y.; subject, "Use of Low Pressure Steam." 1 p. m.—Adjournment.

2.30 P. M. Reassemble—Address by Prof. Philip Cabot, Harvard School of Business Administration; subject, "Salesman or Merchant." Discussion of Question No. 1; discussion of Question No. 4. Adjournment.

Dinner and entertainment for members, guests and ladies in the main ball room. Music by the Somerset Orchestra.

Thursday, Feb. 25, 1926, 10 a. m.—Joint meeting of New England Association of Gas Engineers, Gas Sales Association of New England, and the Industrial Gas Association of New England. Report of joint committee on consolidation. Short recess. Business meeting of the New England Association of Gas Engineers. Paper on "House Heating" by John J. Winn, Jr., Fall River. Discussion of Question No. 2. 1 p. m.—Adjournment.

2.30 p. m. Reassemble. Discussion of Question No. 3, discussion of Question No. 5. Paper on "Progress Made in the Detarring of Artificial Gas with the Cottrell Electrical Precipitation Equipment," by N. W. Sultzer of New York. Adjournment.

If the proposed New England Gas Association is formed by the acceptance of the proposed amendment at the meeting, Thursday, February 25, 1926, the program will be continued as a contribution of the Industrial and Operating Divisions of the new association.

Standard Gas & Electric Debentures Heavily Oversubscribed

Chicago, Ill. — Offering was made by a syndicate headed by H. M. Bylesby & Co. and including Federal Securities Corporation, Janney & Co. and Hambleton & Co. of an issue of $7,500,000 Standard Gas & Electric Company 6 per cent gold debentures, due February 1, 1951. The price was 97½ and interest, yielding the investor about 6.20 per cent, and the issue was heavily oversubscribed.

Gross revenue of Standard Gas & Electric Company for the 12 months ended December 31, 1925, amounted to $7,270,117; with general expenses and taxes of only $144,447, a balance of $7,125,670 net revenue remained. This balance of $7,125,670, available for interest, was more than 5.2 times the annual interest requirements of $1,350,000 on the total funded debt of the company presently to be outstanding.

The proceeds from the sale of this issue will provide funds to be used in payment of indebtedness incurred in the acquisition of a controlling stock interest in the California Oregon Power Company and Wisconsin Public Service Corporation.

* * *

Hartford Gas Co. Holds Election

Hartford, Conn.—Stockholders of the Hartford City Gas Light Co. have re-elected the following: Edward B. Bennett, Elijah C. Johnson, Francis R. Cooley, John T. Robinson, M. G. Bulkeley, Jr., Charles L. Taylor, Clifford D. Cheney and Charles D. Rice.

Directors elected the following officers: President, Edward B. Bennett; vice-president, Francis R. Cooley; secretary-treasurer, John A. McArthur; vice-president and general manager, E. E. Eysenbach; assistant secretary, John T. Robinson; assistant treasurer, W. A. Kneeland.

Reports showed 1,637,788,000 feet of gas made during 1925 as compared with 1,503,654,000 in 1924. The gross income for the year was $1,834,644.77. The net earnings for the year were $508,685.72, compared with $443,679.50 in 1924.

As of December 31 the balance sheet shows assets of $5,503,569.53 with the items as follows: Plant and equipment, $4,857,874.07; materials and supplies, $201,533.39; accounts receivable, $159,033.69; Pullar and Mechanic street property, $50,500; Liberty bonds, $33,761.19; accident and damage cash fund, $4,799.35; suspense accounts, $12,182.74; petty cash, $600.

Liabilities are: Premium on capital stock, $2,499; preferred stock, $750,000; common, $2,250,000; bonds, $750,000; accounts payable, $108,175.81; consumers' deposits, $37,047.57; accrued interest on deposits, $4,573.52; miscellany, $118,561.53; reserves, $463,359.06; surplus, $1,019,353.04.

* * *

W. J. Bertke Elected President Sioux City G. & E. Co.

William J. Bertke, vice-president and general manager of the Sioux City Gas and Electric Company, was elected president of that company at the regular meeting of the board of directors on February 1, to succeed the late Leonard L. Kellogg.

Mr. Bertke has been associated with the Sioux City company since

1903, with the exception of two years (1905-07), when he was assistant superintendent of the Wyandotte County Gas and Electric Company, Kansas City, Kansas. Following his graduation from the engineering department of the University of Wisconsin, he immediately started to work for the Sioux City company as a cadet engineer, from which position he moved up through practically every engineering and executive position in the organization, to its head. He had been virtually in charge of the company's affairs for several years, due to Mr. Kellogg's long illness preceding his death.

Mr. Bertke is also vice-president and general manager of the Sioux City Service Company, which operates the city's trolley system.

* * *

F. H. Knapp Joins Standard Gas Equipment Corp.

F. H. Knapp, formerly president of the Pittsburgh Water Heater Co., an office which he has held for the past six years, has joined the organization of the Standard Gas Equipment Corp. He will hold the office of general vice-president.

Mr. Knapp is very well known in the gas appliance field, as he was president of the Gas Appliance Manufacturers' Exchange for three years and has been a director of the American Gas Association for four years.

* * *

S. J. Franklin Dies

S. J. Franklin, a gas man of many years' experience, passed away on January 19, 1926. Eulogies were made on his death at the meeting of the New Jersey Gas Association held on that date in Camden, N. J. Announcements of sympathy have been received from the Cumberland County Gas Company, the Millville Water Company, the Millville Electric Light Company and the High Pressure Construction and Supply Company.

* * *

Chambersburg Gas Co. Sold

The Chambersburg Gas Company has been sold by C. P. Holzdesber to the Southern Gas & Power Company, a Maryland corporation, incorporated in 1923.

The new company is controlled by the United Utilities Service Corporation, incorporated at more than $1,000,000. The Southern Gas and Electric Company was incorporated as a holding company and owns numerous gas companies in Georgia, Virginia, West Virginia and Maryland. Among its holdings are the Martinsburg Heat & Power Company and the Cumberland and Allegheny Company.

The organization furnishes natural gas or artificial gas in thirty-four communities with a population of 276,000. It has over 35,000 meters in service.

* * *

Turlock Gas Co. Sells Business

Turlock, Calif.—The plant and business of the Turlock Gas Company have been sold to an eastern syndicate, organized as the Pacific Lighting Corporation, which has also acquired the Madera Gas Company's plant. The purchase price of the Turlock concern's property is understood to be approximately $150,000.

While the identity of the purchasers was not disclosed, the same source of information connects them with the promoters of a project to supply the valley with natural gas from extensive deposits in the Tulare Lake region.

The former owners of the Turlock Gas Company, A. W. Caldwell of this city and Edward McGillvray of Los Angeles, will have no connection with the new concern, it is understood. They will still retain their other local property interests, however, including the building occupied by the chamber of commerce.

The acquisition of the Turlock and Madera gas plants by parties interested in the production and distribution of natural gas is believed to portend industrial development of vast importance in the Turlock district and the valley as a whole.

Families in Brooklyn Using Gas Fuel to Heat Homes

Brooklyn, N. Y.—While the coal strike is on a great many residents of this borough are using gas as a substitute for anthracite.

The Brooklyn Union Gas Company is meeting the present emergency in an efficient manner. On the cold days, the company reports, the consumption of gas for heating made the use of gas greater than at any time in the history of the borough. During the recent cold snap the gas consumption increased steadily every hour until long past midnight.

Every works producing gas in the company's operation was prepared for the contingency, with the result that all together they produced 122,685,000 cubic feet. This surpasses by far the record production of last year and all other previous.

"The achievement of such a remarkable record is an excellent testimonial of what loyal employees can do when called upon in the interest of public service," said one of the officials of the Brooklyn Union Gas Company.

"The unprecedented output was nearly 49 per cent greater than the same day last year," he continued. "I want to assure our customers that we will continue to furnish all the gas they require."

Thousands of families in this borough, unable to purchase coal, are keeping their homes warm with gas fuel."

Seeks Right of Way for Gas Line

Denver, Col.—The Colorado-Wyoming Gas Company, a subsidiary of the Public Service Company of Colorado, has purchased about three-fourths of the right of way for connecting the natural gas of the Wellington field with the city of Cheyenne, Wyo. When the full pipe line route is assured, the pipes will be laid and the service turned on. The city of Cheyenne is being served artificial gas at present. The completed pipe line will be about 35 miles long.

Gas Co. Employees Elect 1926 Heads

Darby, Pa.—The Employees Association of the Philadelphia Suburban Gas & Electric Company recently held their regular monthly meeting at the Darby office of the company. Officers to serve during 1926 were elected as follows: John Stainton, meter shop, president; Frank Sipler, Darby distribution, vice-president; J. D. Shattuck, general manager, treasurer; John J. Natale, Chester store room, secretary, together with the following directors: Morris Heck, Chester distribution, Arthur Sweet, coke ovens.

Following the business meeting and election of officers, Charles O. Teter, district sales representative of the Roberts & Mander Stove Company, Philadelphia, was introduced. Mr. Teter, after a brief description of his company's manufacturing facilities, introduced John D. Wells, advertising manager, and Arthur Riffel, assembling foreman of the Roberts & Mander Stove Company. These gentlemen then assembled an all enamel cabinet gas range which had been previously dismantled and explained to the gas folks the particular methods and uses of the parts as they were put together.

Refreshments were then served, after which several vaudeville specialties were introduced by Afflick and Teter. Dancing was enjoyed until late in the evening, music being furnished by the Gas Company Jazzerines.

A. G. A. Ready for Real Test on Cost Analysis System

The following letter has been sent to the various company members of the American Gas Association:

In the fall of 1923 the managing committee of the Accounting Section had a sub-committee appointed to develop a system of cost analysis for gas companies, with the idea in mind that a better knowledge of costs was essential to the development of the industry. The two years of intensive study devoted to the subject by this subcommittee culminated in a report submitted to the Accounting Section at the last convention. An idea of its favorable reception may be had from the unqualified approval given to it by President Abell and Mr. H. M. Brundage at the general session of the convention, both gentlemen urging upon the membership its serious consideration and study of this most important subject.

This committee feels that the period of development through laboratory experiment is now over and the time is now for field application. It has no illusions about its ability to arouse your interest unless it is able to demonstrate the utility of cost analysis. It is confident of its ability to do so and as a means proposes to send out a series of letters to those who evince an interest, each of which will set forth a specific value, such, for instance, as the first letter, which will be on the subject of "The Value of Cost Analysis to the Executive." There was a day when our business presented so little customer difference as reflected in demand, diversity and volume that average costs per unit as shown by the uniform classification of accounts, now in almost universal use by gas companies, were sufficient. But the industry has entered a new era where more searching inquiry as to cost is essential if we are to determine wisely the extent to which we shall develop the industrial, house heating and others of our newer opportunities. Will you not indicate your interest in the subject by advising us if you have studied the report of last year's committee? We will be glad to forward a copy.

As you have noted above, the first letter of the series will be on the subject of "The Value of Cost Analysis to the Executive." Do you wish us to send one to you?

Rockville-Willimantic Lighting Co. Plant Damaged by Fire

Rockville, Conn.—The gas plant of the Rockville-Willimantic Lighting Co. has been almost completely destroyed by fire of unknown origin.

Officials of the company have started an investigation but have been unable to determine the cause of the blaze. Superintendent Loree estimated the loss at between $35,000 and $40,000.

Gas Merger Certificate Filed

Albany, N. Y.—The Southern Duchess Gas and Electric Company has filed a certificate in the office of the Secretary of State merging with Central Hudson Gas and Electric Company, Poughkeepsie, N. Y.

Oregon Public Utility Companies Keep Forging Ahead

Portland, Ore.—Utilities of the city not only made a greater expansion of their facilities during 1925 than during any previous year but also laid the foundation for many major developments during the coming year.

To cap the activity of the utilities during the year, the executive heads of the Portland Gas & Coke Co., Pacific Power & Light Co. and Northwestern Electric Co. purchased a half block of business property and announced their intention of erecting a $2,000,000 home for these utilities.

Clarence Blakeslee Elected President of New Haven Gas Lt. Co.

The new president of the New Haven Gas Light Company, successor to the late C. H. Nettleton, is Clarence Blakeslee, a member of the Yale Corporation. Other changes amongst the officers were as follows: J. A. Norcross, former secretary and treasurer, has been made a director and vice-president and general manager, while Theodore P. Sucher, former assistant secretary and treasurer, has been elected secretary and treasurer to succeed Mr. Norcross.

New Gas Plant and Extensions Worth $115,000

Six Miles of Mains Included in Year's Building Program

Iron Mountain, Mich. — Construction of a new plant, involving the expenditure of approximately $65,000, and the laying of more than six miles of mains and installation of 175 new meters at an additional outlay of $50,000, are among the extensions and improvements affected by the Iron Mountain Gas Co. during the past year, according to a statement by its officials.

The new plant, located near the Ford store and facing Carpenter avenue, was recently completed and is now in full operation. The plant, with the adjacent territory owned by the company, comprises 10 lots and occupies about four acres of ground. The old plant on River avenue, which was abandoned because it was not large enough, is being dismantled and as much of the equipment as can be used is being transferred to the new plant.

Organized a Year Ago

About a year ago the Iron Mountain Gas Co. was organized from the remains of the defunct Citizens Gas Co., which was purchased by E. J. Koppelkam, of Milwaukee, at a receiver's sale, for a consideration said to be about $24,000. The company has applied to the Public Utilities Commission for permission to issue $100,000 in bonds for either local or outside distribution.

Owing to certain legal technicalities involving the title to the site occupied by the new plant, this permit has been somewhat delayed, but the officials are confident that it will be granted in the near future.

In the meantime the officials have effected loans which, with the money paid in by stockholders, are to cover all of the money involved in the purchase of the old plant, the construction of the new unit and installation of extensions.

The new plant, designed to accommodate a community of 40,000 population, is modern throughout and all of the equipment is of the latest type. The gas, arising from the coke ovens, is directed first to a generator, thence to a carbureter, where it is treated with a process which brings it up to commercial requirements, and finally to the super-heater, whence it is forced into the storage tank located outside the plant proper. A high-pressure power pump draws the gas from the storage tank into the purifiers, in another part of the plant, where foreign particles are removed. From the purifiers the gas is forced into the city mains.

Utica G. & E. Will Construct Additions in Coming Year

Utica, N. Y.—Because of the increased demand for gas for industrial and domestic use, the Utica Gas & Electric Company has planned an extensive building campaign for 1926.

These plans include the construction of a waterless type gas holder of 5,000,000 cubic feet capacity, 21 additional Becker type Koppers coke ovens, new boiler house containing two 427 hp. boilers, a new compressor house having a capacity of 300,000 cubic feet an hour and a light oil plant to house a specially designed distilling system for the production of benzol.

The new gas holder, which will be located at Harbor Point, will be the highest structure in this section, rising 219 feet above ground. It will be constructed of 3-16 inch steel plate and will be a 20 sided polygon in shape. The amount of steel to be used in the holder is 2,000 tons.

The new boiler house will be constructed of brick and will be 50 feet square and 30 feet high. It will be located directly north of the west building line of the present producer house. The compressor house will be 35 by 70 feet and one story high.

When these additions and proposed changes are completed the Utica company will have one of the best equipped plants in this section of the United States, it is stated, and will be able to care for the needs of the community for years to come. It is proposed to have the increased capacity available by November 1, 1926.

Gas Co. to Increase Capital Stock

Albany, N. Y.—Central Hudson Gas and Electric Company, Poughkeepsie, N. Y., has filed a certificate in the office of the Secretary of State increasing its capital stock from $3,500,000 to $6,500,000. Gould & Wilkie, 2 Wall street, New York City, are attorneys for the corporation.

Mobile Gas Co. Makes Gift to Johns Hopkins

Johns Hopkins University announces that it has received a special gift of $350 from the Mobile Gas Company of Mobile, Ala., Mr. Rufus C. Dawes president, to be devoted to the aid of fundamental research in the Department of Gas Engineering at the university.

Gas Man Talks to Engineers

Denver, Col.—C. A. Harrison, assistant to the general superintendent of the Public Service Company of Colorado, was the principal speaker at the January 26 luncheon of the Colorado Engineering Council, held at the Albany Hotel, Denver. "The High Lights of the Gas Industry" was the subject covered by Mr. Harrison.

W. S. Linnell Elected President of Portland Gas Co.

The new president of the Portland Gas Light Company of Portland, Maine, is Mr. William S. Linnell, who succeeded Mr. Wm. W. Thomas. Mr. Linnell and Widgery Thomas have also been elected directors to succeed Mr. Thomas and E. R. Payson.